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Effectiveness Of Justice-Based Measures In Managing Trust And Privacy Concerns On Social Networking Sites: An Intercultural Perspective

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Abstract:

The unprecedented success of social networking sites (SNSs) has been recently overshadowed by concerns about privacy risks. As SNS users grow weary of privacy breaches and thus develop distrust, they may restrict or even terminate their platform activities. In the long run, these developments endanger SNS platforms' financial viability and undermine their ability to create individual and social value. By applying a justice perspective, this study aims to understand the means at the disposal of SNS providers to leverage the privacy concerns and trusting beliefs of their users—two important determinants of user participation on SNSs. Considering that SNSs have a global appeal, empirical tests assess the effectiveness of justice measures for three culturally distinct countries: Germany, Russia and Morocco. The results indicate that these measures are particularly suited to address trusting beliefs of SNS audience. Specifically, in all examined countries, procedural justice and the awareness dimension of informational justice improve perceptions of trust in the SNS provider. Privacy concerns, however, are not as easy to manage, because the impact of justice-based measures on privacy concerns is not universal. Beyond theoretical value, this research offers valuable practical insights into the use of justice-based measures to promote trust and mitigate privacy concerns in a cross-cultural setting.

Keywords: social networking sites, privacy, trust, fairness, justice, culture, Germany, Russia, Morocco, structural equation modeling

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I. INTRODUCTION

Driven by the desire to keep in touch, self-present, and develop relationships, millions of people around the globe regularly access social networking sites (SNSs) such as Facebook, Vkontakte, and Google+. Businesses, nonprofits and governmental organizations eagerly exploit the power of social networks to market their products and services, communicate with their customers, and engage community members in joint action, co-creation, and innovation. Beyond individual and business value, SNSs deliver significant social benefits as they strengthen interpersonal ties, enhance information flow, and thereby promote the creation of bridging, bonding, and even participatory social capital [Ellison, Steinfield and Lampe, 2007; Koroleva, Krasnova, Veltri and Günther, 2011a].

Despite their popularity, the business of SNS providers is quite challenging. Attracted by the potential for huge success, new SNS providers continue entering this market, competing for user time and attention. Switching costs are low, and SNS providers find themselves under constant pressure to retain existing users or see their market value dissipate quickly, as happened to early success stories Bebo and MySpace [Rabil and MacMillan, 2010; Rushe, 2011]. Even the largest SNSs are not immune to this threat. Facebook, for example, is currently experiencing a reduction in user numbers in such key markets as the USA, Canada, the UK, Norway, and Russia [Eldon, 2011].

These pressures lead SNS providers to dedicate significant efforts to maintaining and growing their membership. For example, complex algorithms behind Facebook's News Feed work to enhance user involvement and socialization. However, despite the value users derive from using SNSs, a wave of privacy scandals has made many wonder whether their participation is worth the risks [Rizk, Marx, Schrepfer, Zimmermann and Günther, 2009]. Indeed, recent studies report that SNS users exhibit a very low level of trust towards the SNS provider and have considerable privacy concerns [Boyd, 2008; Boyd and Hargittai, 2010]. Left unaddressed, these negative perceptions are likely to lead to less communication on the platform and can then threaten platform sustainability in the long run [Bulgurcu, Cavusoglu and Benbasat, 2010]. After all, member self-disclosure is the backbone of user engagement and loyalty and, as a consequence, SNSs' financial viability [Boyd and Heer, 2006].

Recognizing the destructive nature of these developments, SNS providers find themselves in a constant search for practical means to leverage user privacy concerns, promote trust, and thereby encourage user activity [Dinev and Hart, 2006]. The identification of these means, however, is complicated by the growing internationalization of their business. Indeed, as national culture determines the way people behave in various situations [Hofstede, 2001], it is natural to expect that users from different countries will respond differently to the actions of SNS providers. For instance, the low adoption rates of Facebook in Russia, Japan, and South Korea are often linked to the distinct cultural characteristics of these countries [Eldon, 2010]. Given the cultural diversity of users, SNS providers increasingly question the effectiveness of various methods to stimulate user participation in the inter-cultural setting.

Nevertheless, current research offers only few insights into how SNS providers can promote international user participation. To fill this gap, this study applies a justice perspective to examine a set of measures SNS providers can adopt to address determinants critical for user activity—privacy concerns and trust in the SNS provider. Empirical tests assess the effectiveness of these measures for three culturally distinct countries: Germany, Morocco, and Russia. The insights from this study can help providers to fine-tune their tactics for different international locales. As a result, providers can strategically direct their efforts and investments in their global operations.

II. RESEARCH FRAMEWORK

Motivating User Participation

Participation on SNSs can take a number of forms: active public communication, passive following, and social searching [Koroleva et al., 2011a]. Although numerous studies link these behaviors to individual or social value [e.g., Ellison, Steinfield and Lampe, 2011], providers usually concentrate on stimulating the first component, active communication. Indeed, the public sharing, commenting, and liking are central to users' interest and immersion and are also critical for the SNS commercial valuation [Krasnova, Hildebrand, Günther, Kovrigin and Nowobilska, 2008]. At the same time, active communication is also related to significant privacy risks [Hogben, 2007]. As a result, users may choose to avoid it—an undesirable scenario for any SNS provider.

Several studies have explored the drivers and impediments behind participation and active communication on SNSs. For example, the technology acceptance model [Davis, 1989] was modified to reflect the hedonic nature of SNSs [e.g., Rosen and Sherman, 2006; Sledgianowski and Kulviwat, 2008]. In more recent research, a *privacy calculus* perspective received wide recognition because it helps to explain paradoxically high levels of user communication in the face of privacy risks [e.g., Thambusamy, Church, Nemati and Barrick, 2010; Koroleva, Brecht, Goebel and Malinova, 2011b; Krasnova, Spiekermann, Koroleva and Hildebrand, 2010]. Based on this approach, individual participation and information sharing is motivated by anticipation of *benefits* such as enjoyment and social acceptance. In addition, *trusting beliefs,* which reflect users' perceptions of the SNS provider's benevolence and integrity, support platform communication [e.g., Ridings, Gefen and Arinze, 2002; Dwyer, Hiltz and Passerini, 2007]. After all, "*merely believing that the vendor is competent, benevolent and honest may go a long way towards persuading a user to share information*" [McKnight, Choudhury and Kacmar 2002, p. 314]. At the same time, users restrict their online information disclosure because of privacy concerns, which reflect "*concerns about possible loss of privacy as a result of information disclosure*" [Xu, Dinev, Smith and Hart, 2008, p.4].

While all *three* determinants influence the individual decision to communicate publicly, they differ in their responsiveness to the actions of the SNS provider. On the one hand, *perceptions of benefits* are often determined by the composition of a friend list, user personality, as well as user behavioral patterns [e.g., Ellison et al., 2007]. As a result, these beliefs tend to develop independently. On the other hand, *privacy concerns* and *trusting beliefs* are sensitive to the actions of the SNS provider [Boyd, 2008]. For example, providing SNS users with functional control represents powerful means to improve user trust and reduce privacy-related anxiety [Krasnova et al., 2010]. Furthermore, site quality and structural assurances can be used to leverage trusting beliefs and privacy concerns in computer-mediated environments [McKnight et al., 2002].

The *privacy calculus* perspective performed well in previous SNS-related research, and we adapt this approach for the purposes of our study. Specifically, given our interest in practice-oriented solutions, we concentrate on finding operable means to leverage two privacy-calculus-relevant determinants—*privacy concerns* and *trust in the SNS provider*.

Justice Perspective

A variety of theoretical frameworks have been proposed to study the determinants of trust and perceived risk online [e.g., Xu et al., 2008; McKnight et al., 2002]. However, whenever consumer privacy interests are at stake, Culnan and Bies [2003] advocate the use of a justice[1] perspective. In their view, fairness of privacy-handling practices provides a necessary ground to balance out the disparate interests of the parties involved. It happens because most users are unable to evaluate adequately their privacy risks as a result of incomplete information, bounded rationality, or other cognitive limitations [Acquisti, 2004; Krasnova, Kolesnikova and Günther, 2009c]. In this context, the fairness of a company's privacy-handling practices represents a relevant heuristic to assess the IT provider [e.g., Konovsky, 2000]. It refers to the "*degree of fairness that an Internet user perceives about online companies' treatment related to information privacy*" [Son and Kim, 2008, p.508]. As such, fairness of the privacy-handling practices represents a signal of the trustworthiness of the provider and the overall riskiness of the transaction. For example, in their study of interactive home information services, Culnan and Armstrong [1999] show that consumers are willing to disclose their information when data-handling practices are perceived as fair. Furthermore, Son and Kim [2008] demonstrate that beliefs about fairness lead to fewer refusals to provide personal information and reduce the degree of data misrepresentation by the Internet users. In the SNS setting, providers may see no choice but to use member information for personalized advertising to finance their operations. Users, however, may resent this behavior and therefore avoid information sharing and communication on the network [Krasnova, Hildebrand and Günther, 2009b; Sheng, Nah and Siau, 2008]. In this context, a justice framework offers a much needed explanation of how to reconcile the conflict-ridden relationships between SNS users and providers.

Beyond being useful in explaining user behavior in privacy-risky environments, the justice perspective has received wide acceptance in organizational and social psychology research because the four dimensions of justice—*distributive, procedural, informational and interpersonal*—are easy to translate into specific actions [e.g., Colquitt, 2001; Aryee, Budhwar and Chen, 2002]. For example, perceptions of fairness by employees have been shown to materialize into such positive outcomes as organizational commitment [Folger and Konovsky, 1989], job and pay satisfaction [Landy, Barnes and Murphy, 1978], improved job performance [Lind, Kanfer and Earley, 1990] and even increased organizational citizenship behaviors [Moorman, 1991].

Finally, while justice beliefs are universal in nature, the importance people attach to various dimensions of justice varies from country to country [Morris and Leung, 2000]. Indeed, individuals inevitably integrate their cultural

[1] We use the words "fairness" and "justice" interchangeably in this study.

heritage into their fairness judgments and adjust their behavior accordingly [Konovsky, 2000; Brockner, Ackerman et al., 2001]. Hence, a justice framework represents a particularly interesting case for intercultural exploration.

Taken together, a justice-based framework offers a much needed background in which to study the means at the disposal of SNS providers from a cross-cultural perspective. Yet no study, to the best of our knowledge, has applied this perspective to the SNS context. At the same time, insights from other contexts do not directly transfer to the SNS setting and need additional verification. For example, a study by Son and Kim [2008] offers only general insights into the role of justice and leads to no conclusion about the differential effects of fairness dimensions on user behavior. Similarly, the anonymous nature of the virtual communities of practice in the study of Fang and Chiu [2010] makes their findings only remotely applicable to the privacy-sensitive SNS environment. To fill this gap, this study integrates *justice dimensions* as direct antecedents of two participation-relevant determinants—*trusting beliefs* and *privacy concerns*—to study their effectiveness in a cross-cultural context.

Cultural Context of the Study

Rooted in national values, beliefs, and traditions, national culture defines individual attitudes, interpretations of events, and the resulting behavior [Hofstede, 2001]. In the SNS setting, national culture was shown to influence perceptions of privacy risks, attitudes towards provider, and individual self-presentation patterns [e.g., Zhao and Jiang, 2011; Veltri, Krasnova and Elgarah, 2011; Krasnova, Kolesnikova and Günther, 2011; Krasnova, Veltri and Günther, 2012]. The research discourse on fairness also stresses the importance of cultural differences [Brockner et al., 2001]. To investigate the intercultural effectiveness of justice-based measures, we invited SNS users from Germany, Russia, and Morocco to participate in this study. The choice of these countries was motivated by several considerations.

The SNS market in Germany is oligopolistic in nature, with Facebook and local competitor StudiVZ sharing the market [comScore, 2011]. Given this intense competition, insights from this study are of high practical relevance. Moreover, Bonneau and Preibusch [2009] argue that SNS providers should address concerns of privacy fundamentalists first. As Germany is one of the most privacy-conscious nations in the world, our findings could provide insights into managing the attitudes of this category of users.

Russia represents one of the most lucrative markets for SNS providers, because Russians spend on average 9.8 hours per month on SNSs, almost twice the world's average [comScore, 2010]. Until this date, however, the Russian audience remains unresponsive to the efforts of international SNS platforms, with local VKontakte dominating the market. Facebook continues to struggle in Russia, viewing it as one of the hardest markets to enter due to cultural barriers [Eldon, 2010]. The nature of the Russian audience—highly participatory yet resistant to foreign influence—makes studying the behavior of Russian users highly relevant.

Finally, Arabic is of one of the fastest growing languages on Facebook [Morrison, 2010]. As the region entered turmoil in early 2011, SNSs became a potent force in spreading the news of social unrest and uniting the rioters in the Middle East and North Africa. This aptly demonstrated the power of social media to incite social and political change. To study participation patterns of Arab users, one of the countries from this region, Morocco, is included in this study. Morocco is home to one of the fastest-growing Facebook audiences, with 5.1 million users [Internet World Stats, 2012].

Cultural Differences

Even though a multitude of studies address the differences in culture [e.g., Triandis, 1995; Fukuyama, 1996; Schwartz, 1994], this study relies on Hofstede's [2001] framework to examine the cultural differences. Widely recognized among scholars and industry leaders [e.g., Siau, Nah and Ling, 2007; Li, Hess, McNab and Yu, 2009], Hofstede's framework incorporates power distance, individualism, masculinity, and uncertainty avoidance. Comparison of scores across these dimensions allows us to make systematic conclusions about the nature of the intercultural differences between Germany, Russia, and Morocco (Table 1).

Table 1: Cultural Dimensions for Germany, Russia, and Morocco [Hofstede, 2001].

Country	Germany	Russia	Morocco	World Average
Individualism	67	39	46	45
Uncertainty Avoidance	65	95	68	64
Power Distance	35	93	70	55
Masculinity	66	36	53	50

For individualism, Germany exhibits considerably higher scores than either Morocco or Russia do. Apparently, Germans are more self-reliant, accentuate personal goals over collective ones, and build loose interpersonal ties as

opposed to close-knit circles [Hofstede, 2001]. Russians and Moroccans, on the other hand, attach significant value to interpersonal support and communication and also define their self-concept in terms of a group [Sia, Lim, Leung, Lee, Huang and Benbasat, 2009]. On the uncertainty avoidance dimension, Russia stands out with a very high score, indicating that Russians feel more threatened by the unknown [Doney, Cannon and Mullen, 1998]. Studies from political psychology show that Russians are distrustful in nature and fear social threats because they perceive others as self-serving, opportunistic, and evil [Mikheyev, 1987]. Germans and Moroccans, on the other hand, exhibit higher tolerance for deviance and uncertainty, as they exhibit moderate levels of uncertainty avoidance [Doney et al., 1998]. Comparison of power distance scores reveals that while Germans hold egalitarian attitudes, Russian and Moroccan societies are hierarchical in nature, exhibiting higher acceptance towards inequality, higher conformity, and more tolerance towards authority. When it comes to masculinity, Hofstede's [2001] scores indicate that feminine values are more pronounced in Russia, suggesting that Russians value nurturance and are more modest and caring. Conversely, higher masculinity values in Morocco and especially Germany signal a more assertive and competitive character for these societies. However, feminine cultural traits do not always prevail in Russia. Indeed, Laczniak and Murphy [1993, p. 216] argue that the emphasis placed on success is considerable in developing countries as opposed to developed economies such as Germany, where the quality of life is increasingly more important.

Together, the differences on these dimensions may play a role in how users interpret the fairness of a given situation and respond to it. In addition, other characteristics of the society, such as privacy awareness and specific historical and religious heritage (e.g., Germany's Nazi past, Russia's Soviet past, and the Muslim religion in Morocco), can also explain user response to the fairness-based measures, as discussed in the following sections.

III. RESEARCH HYPOTHESES

Organizational scholars have successfully linked *distributive, procedural, informational, and interpersonal* dimensions of fairness to desirable outcomes (e.g., job satisfaction) and advanced specific recommendations for management [Folger and Konovsky, 1989]. Despite widespread use of *these four* dimensions in organizational settings, the SNS context lacks direct communication between the SNS provider and SNS members. Thus, application of *interpersonal justice*—reflecting the quality of interpersonal communication between parties [Colquitt, 2001]—is unsuitable in this setting. As a result, we omit this justice dimension from the subsequent discussion.

The following sections present a research model connecting justice-based measures with two participation-relevant outcomes—privacy concerns and trust in the SNS provider—with the goal of helping providers assess the effectiveness of justice-based measures. A resulting model is then tested in a cross-cultural setting with three countries. While we discuss in great detail the possible directionality of cultural influences, we refrain from making ex-ante predictions about the relative impact of various fairness measures in each culture. Individual cultures are complex phenomena with cultural dimensions often working in contrary directions. Therefore, investigation of intercultural dynamics is only exploratory in nature, particularly when more than two countries are involved [Pillai, Williams and Tan, 2001]. Thus, we explore the actual resulting differences in the empirical part of this paper.

Distributive Justice

Despite the individual value gained from participating on SNSs, users dislike that fact that providers use their information for personalization and behavioral targeting [Rizk et al., 2009]. At the same time, providers may see no choice but to continue doing so under the current revenue model. The outcome of this conflict is likely to depend on users' perceptions of distributive justice—the attitudinal construct reflecting "…*users' perceived fairness of the outcome that they receive from online companies in return for releasing their personal information*" [Son and Kim, 2008, p. 510].

Attributing a strategic role to distributive justice perceptions, Culnan and Bies [2003] warn that companies with low benefits-to-privacy risks ratio may lose their members to competitors who offer better distributional outcomes. Supporting this view, Hui, Tan, and Goh [2006] urge service providers to offer users benefits in exchange for using their information, thereby supporting equitable exchange. Following this recommendation, SNS providers often resort to outright comparison of the benefits users receive with the efforts it takes to deliver user value. For example, German SNS StudiVZ [2011][2] explained: "*VZ-networks finance themselves exclusively through advertising. In this way we can offer you quick and entertaining social network in which you can find your friends, share your news, chat, view, comment and tag photos for free…*" By adopting these communication strategies, SNS providers target distributive justice perceptions.

[2] translated from German by the authors

Overall, organizational research has consistently linked beliefs about distributive justice with such positive outcomes as job satisfaction, organizational commitment, and trust in the other party [Colquitt, Conlon, Wesson, Porter and Ny, 2001]. In virtual communities, perceptions of distributive justice resulted in higher trust in community members [Fang and Chiu, 2010]. Beyond promoting trust, measures addressing perceptions of distributive justice can help mitigate user privacy concerns. For example, Krasnova et al. (2009b) show that users are willing to "trade" their privacy in exchange for social interaction and greater customization afforded by SNS. Recognizing this strategic potential, 17 out of 45 SNSs in Bonneau and Preibusch's [2009] dataset offer users an opportunity of allocation choice in the form of paid premium membership, which often implies more control over one's information. Taken together, perceptions of distributive justice are likely to mitigate privacy concerns and enhance the trusting beliefs of users worldwide.

The strength of the impact of these beliefs is, however, likely to depend on culture [Morris and Leung, 2000]. Indeed, culture is an indispensable ingredient of our judgment of how the resources should be allocated, with user perceptions of distributive justice being a function of the user's cultural heritage [Farh, Earley and Lin, 1997]. In past research, value placed on distributive justice was often linked to the individualism dimension of culture [Morris and Leung, 2000]. Specifically, it has been found that individualistic cultures like Germany's tend to have higher tolerance towards distributional inequality [Giacobbe-Miller, Miller and Victorov, 1998]. As a result, these users adequately assess provider's attempts to capitalize on user-provided content and view negative changes in the benefits-to-costs ratio as an inevitable part of the market reality and a toll for the value they obtain. Hence, only few changes in users' privacy concerns and trust are expected in Germany. On the other hand, as collectivistic societies like Russia's and Morocco's are more inclined towards social comparison, they tend to attach significantly higher value to distributive fairness [Morris and Leung, 2000]. For example, Russians constantly compare themselves to others with a slogan "*don't live worse than your neighbor,*" reflecting the group philosophy of life for many in Russia [Naumov and Puffer, 2000, p. 715]. As a consequence, users from more collectivistic countries are likely to exhibit much stronger reactions whenever norms of distributive justice are allegedly violated. To explore the strength of cultural influence, the following relationships are tested in our model:

> *Hypothesis H1a: Perceptions of distributive justice will have a positive influence on user's trust in the SNS provider.*
>
> *Hypothesis H1b: Perceptions of distributive justice will have a negative influence on user's privacy concerns.*

Procedural Justice

Over the years, research has consistently shown that while the outcomes obtained in a transaction are important, the process used to arrive at these outcomes plays a significant role as well [e.g., Brockner et al., 2001; Thibaut and Walker, 1975]. Perceptions regarding the fairness of these processes constitute the core of the procedural justice concept. Although a great variety of attributes are descriptive of procedural justice, enabling individuals with *control* over the decision-making process is its most salient characteristic [Colquitt, 2001; Brockner et al., 2001]. The importance attached to *control* is so strong that individuals choose control-rich procedures even when other options are more likely to bring them better outcomes [Morris and Leung, 2000]. The role of control in fairness beliefs becomes particularly prominent whenever concerns about the opportunistic behavior of others are involved [Malhotra, Kim and Agarwal, 2004]. Considering that self-disclosure on SNSs opens up unlimited opportunities for data misuse, control beliefs should play an equally dominant role in procedural justice perceptions in the privacy-risky SNS context.

Two types of *control* are typically considered in the context of information privacy: *control over being accessed* and *control over information use* [Spiekermann, 2005]. SNS providers address *the former dimension* by supplying users with a variety of settings to manage access to their data. For example, a recent launch of Google+ brought renewed attention to the importance of accessibility controls. While letting users manage their accessibility is commonplace, the practice of giving users active *control over the use of their information* is still in its early stages. Indeed, users typically find themselves in a passive position, as this type of control is passed down in the form of a take-it-or-leave-it privacy policy. A notable exception is StudiVZ as it gives users an opportunity to choose whether their data is used for targeted advertising. Similarly, Facebook asks for permission to match users' social actions with ads.

A number of findings suggest a close relationship between procedural justice and trust. For example, Konovsky [2000] argues that by enabling employees with control over relevant decisions, management can prevent the feelings of being exploited and can thereby promote trust attitudes. In an online context, control is a powerful enabler of the institution-based trust, as it supports self-regulation on the platform [Pavlou and Gefen, 2004]. Indeed, as perceptions of control work to ensure confidence in the cooperative behavior of others [Das and Teng, 1998], an atmosphere of trust gets promoted [Dinev and Hart, 2003]. Additionally, control beliefs mitigate privacy concerns in the SNS environment [Xu et al., 2008]. Supporting the importance of self-controlling mechanisms, concerns over information privacy go hand in hand with the existence of voice in information-handling practices [Malhotra et al.,

2004]. Torn between a desire to self-disclose and pressure to withhold information [Tufekci, 2008], SNS users are even willing to pay for sophisticated control options.

Existing findings speak for the presence of a significant link between perceptions of procedural justice and privacy concerns and trust; however, the strength of these links is likely to vary from country to country [Morris and Leung, 2000]. Our analysis of the literature shows that, in particular, individualism and power distance dimensions are salient in explaining these differences. The directionality of their impact is, however, ambiguous.

On the one hand, individualistic cultures like Germany's are more confrontational in nature and are likely to exhibit a stronger preference for control as a basis for trust [Konovsky, 2000; Leung and Lind, 1986]. Moreover, people with a Western mentality attribute to themselves a significant power to change their lives, which makes them more appreciative of the control options. In contrast, cultural collectivism impedes the development of the internal locus of control. For example, Russian students are more likely to attribute control over the events in their lives to chance [Kaufmann, Welsh and Bushmarin,1996]. Such fatalistic attitudes are also characteristic of the Arab culture, which emphasizes God's will and views self-confidence as a sign of arrogance and even blasphemy [Nydell, 2010]. However, since collectivists value interpersonal harmony, they may particularly appreciate privacy controls, as such controls offer them excellent means to regulate the outgoing information without offending anyone [Morris and Leung, 2000]. All in all, the directionality of the individualism influence is unclear.

For power distance, Gudykunst and Ting-Toomey [1988] report that people from societies with a large degree of power distance, as in Russia and Morocco, are likely to exhibit less anger when faced with unjust treatment. In addition, high power distance facilitates the development of paternalistic attitudes, which may lead users to expect that the SNS provider will take care of their privacy issues. Therefore, the role of procedural justice gets deemphasized [Pravda.Ru, 2002].

To explore the strength of cultural influence the following relationships are tested in our model:

Hypothesis H2a: Procedural justice will have a positive influence on user's trust in the SNS provider.

Hypothesis H2b: Procedural justice will have a negative influence on user's privacy concerns.

Informational Justice

The effectiveness of fair information procedures is questionable if users are not aware of them. This brings us to the concept of informational justice, which calls for transparency of organizational practices [Malhotra et al., 2004]. Overall, existing organizational research is unanimous about the positive role of information in ensuring favorable attitudes among employees in a company [e.g., Colquitt, 2001; Kernan and Hanges, 2002]. Privacy scholars similarly stress notice as a key element of fair information practices and a weapon against privacy concerns [Malhotra et al., 2004]. For example, consumers who know that they can remove their names from the marketer's list have lower privacy concerns when it comes to providing their data [Culnan,1995]. Similarly, reading a privacy statement leads to higher self-disclosures [Hui, Teo and Lee, 2007]. Indeed, as users scan through privacy policies, they look for trust-enhancing cues to address their privacy anxieties [Dommeyer and Gross, 2003].

In the SNS context, measures directed at informational justice can take two forms. On the one hand is the *awareness dimension*: the SNS provider is expected to give users accurate and timely explanations regarding its information-handling practices [Colquitt, 2001]. In essence, this measure represents passive channeling of privacy-relevant information to users. On the other hand is the *warning dimension*: the SNS provider may also *proactively* warn users about possible consequences of implemented procedures, as well as instruct them on the methods for protecting themselves against existing privacy threats. Application of this measure implies a more active stance towards ensuring informational justice. Considering these conceptual differences, we integrate these dimensions as separate constructs into our model.

Informational Justice: Awareness Dimension

People are expected to rely on their knowledge to categorize events and experiences as threatening or safe. When behavioral consequences are hard to predict, many simply avoid doing them—the result of a basic survival instinct [Green, 2003]. In a similar vein, SNS users may refrain from disclosing their information due to existing cognitive uncertainty. After all, even when favorable information-handling practices are in place, users may not know about their existence and content [Son and Kim, 2008]. In fact, a typical privacy policy is written in a complicated legalistic language incomprehensible to the ordinary user. As a result, it is not surprising that only 10% of SNS users claim to have read it [Jones and Soltren, 2005].

Culnan and Bies [2003] call for more action to increase user awareness of information-handling procedures, arguing that these measures will help to promote *trust* and mitigate user *privacy concerns*. Supporting this recommendation, Fang and Chiu [2010] find a positive link between perceptions of informational justice and trust in the management of a virtual community. In the SNS context, securing informational justice is especially important due to significant social distance between participants [Culnan and Armstrong, 1999]. Unsure about the incentives of their SNS provider, users may adjust their behavior on the basis of the distorted rumors and overblown media reports portraying SNS providers as malicious [Dommeyer and Gross, 2003]. This is a dangerous scenario since, as a result of the "halo effect," even a single negative piece of information may spill over to damage the provider's reputation [Krasnova and Veltri, 2010]. For example, some SNS users in Germany still believe that providers are selling their personal information to third parties without their consent—a practice strictly forbidden by law in Germany [e.g., Krasnova, Günther, Spiekermann and Koroleva, 2009a]. In contrast, a fair, accessible and easy-to-understand privacy policy signals that the SNS provider is trustworthy and simultaneously reduces privacy concerns.

Individualistic cultures attach greater importance to information and therefore are more ready to integrate it into their decision-making process [Dinev, Goo, Hu and Nam, 2008]. At the same time, people from collectivistic cultures are more cautious when it comes to forming their attitudes [Dinev et al., 2008]. Additionally, the characteristics of the SNS setting are more facilitative for the development of trusting attitudes for individualists [Doney et al., 1998]. This is due to the distinct nature of trust-building processes both groups adopt: Whereas collectivists are more likely to account for the *predictability* and *benevolence* of the trustee, individualists tend to take a *calculative* perspective by assessing the benefits and costs of the SNS provider's defection (e.g., malicious misuse of user data) [Doney et al., 1998]. Considering the nature of the information involved (e.g., privacy policy, terms of use, press releases, media reports), it seems easier to adopt a calculative approach as opposed to looking for cues hinting at the provider's predictability or benevolence [Lim, Leung, Sia and Lee, 2004]. Hence, users from individualistic countries are in a better position to develop trust towards the SNS provider. Despite this theoretical forecast, some studies investigating the impact of the transparency reveal no significant differences in trusting beliefs formed by trustors with individualistic or collectivistic background [Morris and Leung, 2000]. Moreover, a high level of uncertainty avoidance, characteristic for Russia, can also magnify the value of information, as cultures with high uncertainty avoidance search for means to reduce their anxiety [Hofstede, 2001].

All in all, a closer look at the existing findings does not allow for unambiguous conclusions regarding the role of awareness in the three countries in our focus. To investigate the ultimate outcome of cultural effects, the following hypotheses are integrated into our model:

> *Hypothesis H3a: Awareness about information-handling procedures will have a positive influence on user's trust in the SNS provider.*
>
> *Hypothesis H3b: Awareness about information-handling procedures will have a negative influence on user's privacy concerns.*

Informational Justice: Warning Dimension

Awareness about potential threats plays a critical role in users' willingness to adopt protective technologies on the Internet [Dinev and Hu, 2007]. Unaware about potential risks, SNS users can fall prey to the unknown threats and, as a result, develop feelings of anxiety and distrust. Indeed, such reactions have already been witnessed on SNSs: Delayed realization of risks hidden in the Beacon application resulted in public outrage and a massive wave of critique, tarnishing Facebook's image and causing significant distrust towards the SNS provider [e.g., Rizk et al., 2009; Boyd and Hargittai, 2010].

Considering the detrimental impact of negative experiences on platform participation, *warning* users about the risks of platform communication and educating them about effective protection methods are important responsibilities of any SNS provider. However, despite the apparent demand for such measures, most SNSs do little to warn their users. For example, only two SNSs in Bonneau and Preibusch's dataset warned their members about the possibility of phishing [2009]. Yet, in numerous cases hackers released user login data publicly [e.g., Yousuf, 2010]. Overall, by proactively publicizing privacy threats and guidelines on how to protect information, SNS providers can invest into their image as caring and fair parties sensitive to the privacy needs of their members. This, in turn, is likely to enhance trust and relieve user anxiety.

While users from all countries are expected to view warnings positively, the strength of user reaction is likely to vary. Presumably, users from countries with high uncertainty avoidance, like Russia, are likely to put specific weight on being told about existing threats. Furthermore, paternalistic attitudes common in societies with high power distance, as in Morocco and Russia, speak for the strong preference for warning [Hofstede, 2001]. Indeed, by warning users in advance about their privacy risks, the SNS provider is acting as a caring and well-meaning "parent." In contrast,

hushing up negative consequences of SNS activities may lead users to blame the SNS provider post factum for their woes. This, in turn, will decrease trust and magnify privacy concerns of SNS users. To explore these effects we hypothesize that:

Hypothesis H4a: Warning users about privacy-related threats will have a positive influence on user's trust in the SNS provider.

Hypothesis H4b: Warning users about privacy-related threats will have a negative influence on user's privacy concerns.

Figure 1 summarizes relationships in our model.

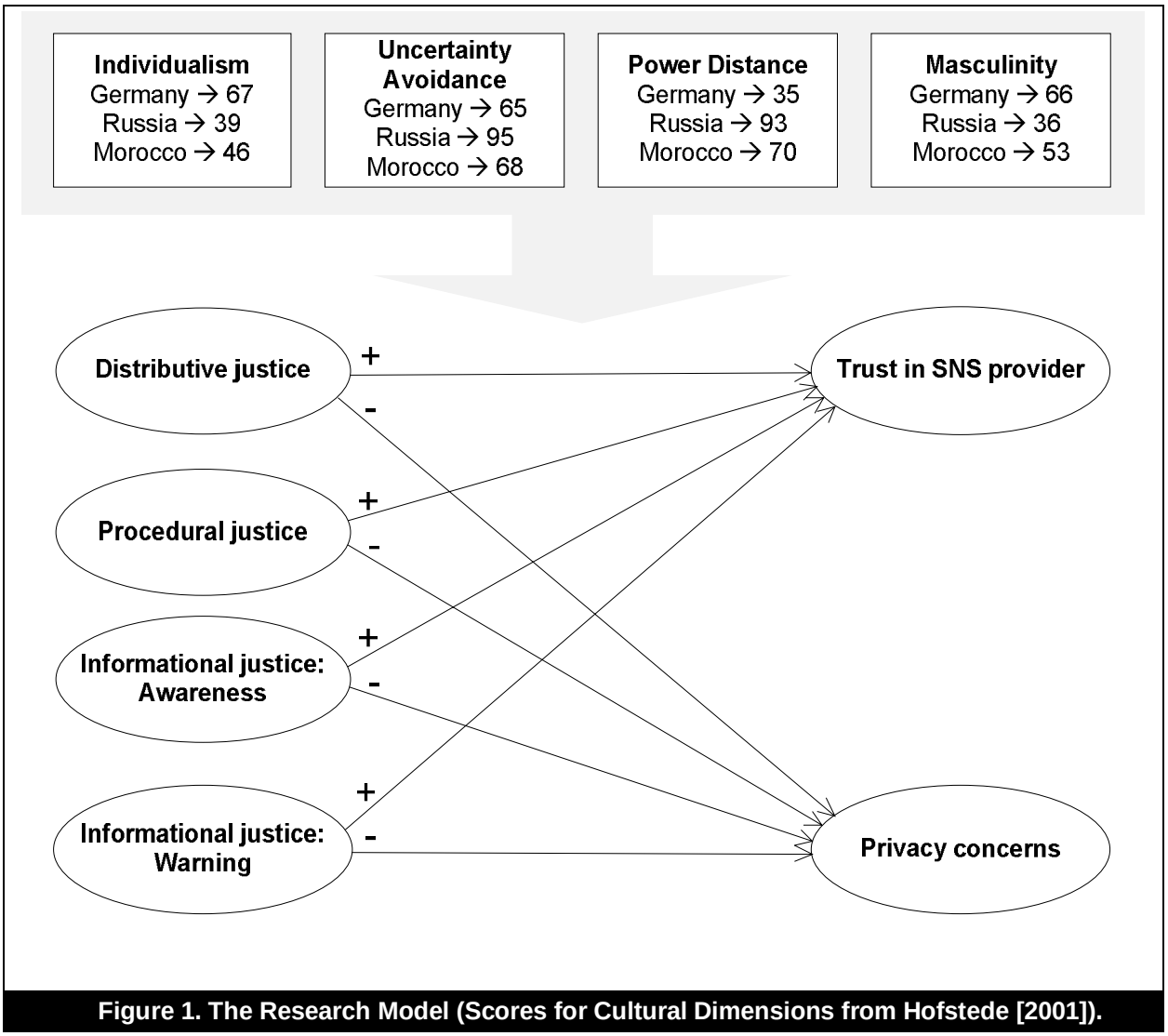

Figure 1. The Research Model (Scores for Cultural Dimensions from Hofstede [2001]).

IV. EMPIRICAL STUDY

Survey Design

We initially formulated all scales in English. We relied on the pre-tested scales where possible. However, many scales had to be newly developed or significantly modified to address the unique SNS context. Scale items that proved to be unclear or inconsistent during the pretest phase were removed. Table 2 contains the final list of items used to assess the model in this study across three countries: Germany, Morocco and Russia. Each construct was measured reflectively. Appendix A provides descriptive statistics for the responses on the item level.

Table 2: Construct Operationalization.	
Construct(Source)	**Survey Items**
Privacy concerns (partly based on Dinev and Hart [2006], self-developed)	How much are you concerned that the information submitted on SNS[3]: PC1. ...can be used in a way you did not foresee. PC2. ...can be used against you by someone. PC3. ...can become available to someone without your knowledge. PC4. ...can become available to someone you don't want (e.g., "ex," parents, teacher, employer, unknown person, etc.). PC5. ...can be misinterpreted. PC6. ...can be continuously spied on (by someone unintended). (1= Not concerned at all / Never thought about it; 4= Moderately concerned; 7= Very much concerned)
Trust in the SNS provider (based on McKnight et al. [2002, p. 318-319])	In general, my SNS: TR1. ...is open and receptive to the needs of its members. TR2. ...makes good-faith efforts to address most member concerns. TR3. ...is honest in its dealings with me. TR4. ...keeps its commitments to its members. TR5. ...is trustworthy.
Distributive justice (inspired by Son and Kim [2008], self-developed)	How fair is the following? DJ1. I would find it fair that some of the profile information I provide can be used for personalized advertising in exchange for free social networking services. DJ2. The benefits I receive from SNS are attractive enough to let SNS use some of my profile information for marketing purposes. DJ3. The fact that some of my profile information can be used for commercial purposes could be compensated by benefits I receive from SNS.
Procedural justice: Control (based on Krasnova et al. [2010], self-developed)	How much control is given to you by SNS (e.g., through functionality, privacy policies) over: PJ1. ...the information you provide on SNS (e.g., in the profile, on the Wall etc.). PJ2. …how and in what case the information you provide can be used. PJ3. …who can collect and use the information you provide. PJ4. ...who can view your information on SNS. PJ5. ...what information is accessible to whom. (1=No control at all; 4=Moderate control; 7=Considerable control)
Informational justice: Awareness (inspired by Malhotra et al. [2004], self-developed)	IJ_A1. Generally, I find my SNS transparent in how the personal information I provide can be used. IJ_A2. My SNS clearly communicates what information it can collect about me. IJ_A3. My SNS clearly communicates in which cases my personal information can be shared with the other parties (e.g., marketing, HR agencies etc.).
Informational justice: Warning (self-developed)	My SNS makes a reasonable effort to: IJ_W1. ...communicate how I can protect my information against abuse (e.g., by other parties or users). IJ_W2. ...warn me about possible misuse of my information (e.g., by other parties or users). IJ_W3. ...warn me about possible threats on the network (e.g., viruses, information misuse).

Sampling

Since Facebook is the most visited SNS in Germany and Morocco [Alexa.com, 2012], we focused on this platform to test our model in these countries. In Russia, however, VKontakte remains an indisputable market leader, counting over 110 million registered members [VKontakte.ru, 2012]. Hence, the VKontake platform was chosen for Russia. Built as a copycat of Facebook, VKontakte has the same look and feel as Facebook. On the functional side, VKontakte closely mimics Facebook's features and their changes. Considering these similarities, it is safe to assume that cultural rather than functional differences will cause differences in user behavior on these two platforms. The sections below provide a description of online data collection in all three countries.

[3] In the actual surveys the words 'SNS' and 'my SNS' were replaced by the word 'Facebook' or 'VKontake' for Germany/Morocco and Russia respectively.

German Sample: For data collection in Germany, the English survey instrument was carefully translated into German and rigorously reviewed by native speakers. Respondents were recruited by posting on university e-mail lists, campus bulletin boards, and Facebook group walls. Each participant received a reward in the value of €5 for filling out the survey. Among respondents, 138 were German, and 99 were from other countries. While responses from non-German subjects were omitted from further analysis, their answers helped to confirm the validity of the translation. Specifically, since the non-Germans had spent a significant amount of time in Germany but had chosen to answer in English, their answers were compared to those from the native German group. Since only marginal differences were found, the adequacy of the translation can be assumed.

Moroccan Sample: A survey for Facebook users was advertised via mailing lists to members of a university community in Morocco. As this university uses English as the sole language for teaching and communication, the survey instrument was administered in English. Participation in the survey was voluntary, and as a reward, survey respondents received course extra credit for participation where applicable. In total, 210 responses were collected.

Russian Sample: The English survey instrument was carefully translated into Russian and rigorously reviewed by native speakers. Respondents were recruited by posting an invitation on VKontakte groups and other popular Russian-language websites. Every second respondent received a monetary compensation for participation. Users from Russia and Belarus participated in the study—both representatives of the Russian cultural archetype. Belarus and Russia exhibit strong cultural similarities due to their geographic proximity, shared Soviet past, language and cultural mindset. On the political level, Belarus is often referred to as the little sister of Russia [Ioffe, 2004]. A total of 212 users responded: 37.3% were natives of Russia, 54.7% from Belarus and 8% did not specify their origin. Supporting the cultural closeness, Mann-Whitney U tests did not reveal any significant differences between groups for all constructs. As a result, observations from both groups were pooled together. For practical reasons we refer to this sample as *Russian* in the rest of the paper.

Table 3 summarizes demographic characteristics of the samples. All samples are dominated by people between 20 and 29 years of age (mainly students and young professionals)—an important group of Facebook users [Alexa.com, 2012]. All samples exhibit only marginal differences in terms of demographics; thus, we consider them comparable.

Table 3: Demographic characteristics.

	Germany	Russia	Morocco
N	138	212	210
Gender			
Female	40.6%	45.5%	61.43%
Male	57.2%	52.5%	38.57%
Age			
under 20	11.6%	13.2%	17.62%
20-29	84.1%	83.5%	82.38%
over 30	4.3%	0.03%	0%
Student	34.8%	41%	100%

Research Methodology and Model Evaluation

The next step focused on estimating research models separately for every country using the Partial Least Squares (PLS) approach implemented in SmartPLS 2.0.M3 [Ringle, Wende and Will, 2005]. PLS was chosen for a number of specific reasons. First, PLS is generally preferred for theory building and prediction [Fornell and Bookstein, 1981]. Since our model is the first one to empirically evaluate the relationships between justice dimensions and participation-relevant determinants in the new context of SNSs, PLS was a superior choice. Second, PLS places fewer demands on the sample size, requiring the number of observations to be at least 10 times the number of exogenous constructs influencing the most complex endogenous construct [Barclay, Higgins and Thompson, 1995]. This criterion was satisfied for all samples in our study. Third, PLS is a robust technique when the data distribution deviates from normal, which was the case for all samples. For all three countries, a research model was evaluated in a two-stage approach. First measurement model and then structural model were estimated. In the next step, a multi-group analysis (MGA) was conducted to determine possible differences in the path coefficients across countries.

Estimation of the Measurement Model

Tests for convergent validity and discriminant validity helped to examine construct validity in the measurement models. Convergent validity was evaluated with indicator reliability, composite reliability, and average variance extracted (AVE) criteria. To ensure indicator reliability, constructs should explain at least 50% of the variance of their respective indicators, which corresponds to 0.7 threshold for factor loadings [Hulland, 1999]. Indicators with factor loadings of less than 0.4 should be eliminated from the model [Homburg and Giering, 1996]. The latter criterion was fulfilled for all constructs in our model, as presented in Appendix B. Moreover, only 8 indicators out of 75 had factor

loadings slightly below 0.7, with the rest by far exceeding this cutoff level. As a result, indicator reliability is assumed. In addition, Cronbach's Alpha—a measure of internal consistency of the items in the scale—was higher than the required level of 0.7 for all constructs in the three models [Nunnally, 1978]. Further, the composite reliability and AVE values for all constructs were higher than the required levels of 0.6 and 0.5 respectively [Ringle, 2004], as summarized in Table 4. Convergent validity was ensured for all measurement models in our study.

Table 4: Quality Criteria of the Constructs

Construct	AVE			Composite Reliability			Cronbach's Alpha		
	GER	RU	MO	GER	RU	MO	GER	RU	MO
Trust in the SNS provider	0.725	0.677	0.608	0.930	0.913	0885	0.906	0.881	0.843
Privacy concerns	0.629	0.636	0.509	0.910	0.912	0.860	0.884	0.884	0.814
Distributive justice	0.823	0.778	0.770	0.933	0.913	0.909	0.895	0.859	0.850
Procedural justice	0.544	0.579	0.578	0.854	0.872	0.872	0.789	0.820	0.821
Informational justice: Awareness	0.734	0.831	0.791	0.892	0.937	0.919	0.819	0.899	0.868
Informational justice: Warning	0.855	0.787	0.799	0.946	0.917	0.923	0.916	0.865	0.875

Bagozzi and Philips [1982, p. 469] describe discriminant validity as "*the degree to which measures of distinct concepts differ.*" To ensure discriminant validity, Fornell and Larcker [1981] require that the AVE for any latent variable is bigger than the squared correlation between this variable and all other latent variables in the model. As presented in Tables C.1–C.3 of Appendix C, this requirement is met for all latent variables across all three models. Taken together, the measurement model for each country was well specified.

Estimation of the Structural Model

Next, the structural model for each country was evaluated separately. We find that justice dimensions together explain R^2= 32.3% / 32.1% / 18.8% of the variance in *trust in the SNS provider,* and 14.0% / 3.7% / 5.3% of the variance in *privacy concerns* for Germany, Russia, and Morocco, respectively. As we aimed to integrate only practice-relevant determinants into our model—omitting a number of other influential variables—this level of explanatory power is adequate. The next step evaluated the path coefficients. Since PLS does not make any assumptions on the distributions of the latent variables, significance of path coefficients was determined via a bootstrapping procedure, by setting the number of cases equal to sample size, as recommended by Tenenhaus, Vinzi, Chatelin and Lauro [2005]. Considering the exploratory nature of our research, significance levels of 10% or less were deemed acceptable. Only one path in the Russian sample (Distributive justice → Trust) was significant at the 10% level. Other significant paths had p-values of 0.05 or lower. Table 5 and Figures D.1–D.3 in Appendix D summarize path coefficients and their significance levels for all three models. Table 6 presents the outcome of the hypothesis testing for each country.

Table 5: R-Squared Values and Standardized Path Coefficients with Significance Levels.

Dependent construct	Trust in the SNS provider			Privacy concerns		
Independent constructs	**GER**	**RU**	**MO**	**GER**	**RU**	**MO**
Distributive justice	0.091	**0.102***	**0.133****	-0.048	**-0.162****	-0.064
Procedural justice	**0.267****	**0.172****	**0.208*****	**-0.259****	-0.018	-0.002
Informational justice: Awareness	**0.318*****	**0.348*****	**0.248****	-0.191	-0.094	**-0.234****
Informational justice: Warning	0.085	**0.154****	0.017	0.025	0.144	0.034
R-Squared, %	32.3%	32.1%	18.8%	14.0%	3.7%	5.3%

**Significance at 10% **Significance at 5% ***Significance at 1% or lower.*

Table 6: Empirical Support for the Advanced Hypotheses

Hypothesis	Germany	Russia	Morocco
Justice-based measure → Trust in the SNS provider			
H1a: Distributive justice	not supported	supported	supported
H2a: Procedural justice	supported	supported	supported
H3a: Informational justice: Awareness	supported	supported	supported
H4a: Informational justice: Warning	not supported	supported	not supported
Justice-based measure → Privacy concerns			
H1b: Distributive justice	not supported	supported	not supported
H2b: Procedural justice	supported	not supported	not supported
H3b: Informational justice: Awareness	not supported	not supported	supported
H4b: Informational justice: Warning	not supported	not supported	not supported

In the final step, we conducted seven pair-wise comparisons of the strength of the significant path coefficients between countries using nonparametric PLS-MGA procedure [Henseler, Ringle and Sinkovics, 2009]. We performed this step to gain a deeper understanding into the culture-specific differences in users' response to justice-based measures[4]. Results of our analysis, however, revealed that no difference between significant path coefficients is statistically significant (specific p-values are available from authors upon request). Hence, the strength of the impact of significant justice-based measures cannot be differentiated between the tested pairs of countries.

In the following section we present theoretical and managerial implications of our findings.

V. THEORETICAL FINDINGS

Studies from organizational science and social psychology provide a number of insights into the role of culture in individual perceptions of justice. Despite their value, the applicability of these studies is limited to the employer-employee relationship. This study is a pioneering attempt to step outside the boundaries of organizational relationships and apply an intercultural lens to study the importance of justice-based measures in a new setting of SNSs. Table 7 summarizes our findings and identifies countries for which the examined justice-based measures were found effective in managing privacy concerns and promoting trust in the SNS provider.

Table 7: Effectiveness of Justice-based Measures in a Cross-Cultural Comparison.

Justice-based measures / Target	**Trust in the SNS provider**	**Privacy concerns**
Distributive justice	Russia, Morocco	Russia
Procedural justice	Germany, Russia, Morocco	Germany
Informational justice: Awareness	Germany, Russia, Morocco	Morocco
Informational justice: Warning	Russia	

We find that perceptions of distributive justice are a relevant factor in building trust in the SNS provider for Russian and Moroccan users. At the same time, no link was found for distributive justice perceptions in Germany, demonstrating an oblivious attitude of German users towards this type of (in)justice. This corroborates the assumption that collectivistic cultures with high power distance are *more* inclined to value distributive justice due to social comparison and general distrust towards the allocation decisions taken by the outsiders [Morris and Leung, 2000; Pillai et al., 2001]. At the same time, even though German users may find use of their data for profit unpleasant, they may interpret it as an inevitable reality of the market economy. Consequently, they may perceive no reason to distrust. Moreover, a strong legal framework addressing the privacy of German SNS users can be a reason for this phenomenon. Indeed, even when German users find a provider to "over-exploit" their information, they may still rely on privacy laws to guarantee them a certain level of privacy. Indeed, *Confidence in Legal Assurance* was found to play a significant role in mitigating privacy concerns of SNS users in Germany [Krasnova and Veltri, 2011].

Beyond enhancing trust, distributive justice is also a significant predictor of *privacy concerns* of Russian users, signaling high sensitivity of this culture to income redistribution decisions. Structural changes taking place in the Russian society can be partly responsible for this outcome: Whereas equality or notoriously known "*uravnilovka*" was entrenched as a norm in the Soviet system, modern Russians are increasingly questioning the fairness of the distribution decisions. By doing so, they may disregard the value they receive from participating on a SNS, while concentrating on the cost side. Taking this lens, they may see themselves as victims of a "greedy" SNS provider taking advantage of their information. Indeed, the stereotype that making money on others is immoral is still deeply embedded in the Russian mentality: "*wealth is incompatible with morality and 'equality in poverty' is more moral to them than 'inequality in wealth*" [Pravda.Ru, 2002]. As Russians transfer this social sensitivity to the SNS context, they place increasing emphasis on distributive justice when forming their trusting attitudes and weighing privacy risks, as indicated by our data.

The close interrelation between distributive and procedural justice dimensions can explain the relative ineffectiveness of distributive justice measures in Germany and Morocco. Specifically, organizational scholars argue that when information about procedures precedes the information about the outcomes, procedural information will have a greater influence on the fairness judgment [Konovsky, 2000]. We find that procedural justice, operationalized as perceptions of control, is an important predictor of trust for users in *all countries in our study*. Apparently,

[4] Pair-wise comparisons were performed *only* when both corresponding path coefficients were significant (e.g., distributive justice is a significant predictor of trust in the SNS provider in both Russia and Morocco). Whenever a path coefficient was significant for one country but insignificant for the other, the difference was assumed to exist and no pair-wise comparison was conducted. Similarly, we did not perform a pair-wise comparison when a path coefficient was insignificant in both countries (e.g., procedural justice is not a significant predictor of privacy concerns in either Russia or Morocco). In this case the influence of justice-based measure was considered to be equally absent.

independent of their cultural heritage, users interpret improvements in control options as a sign of provider's benevolent intentions and, therefore, trustworthiness. On the theoretical level, these findings contribute to the research discourse on the role of cultural *individualism* in moderating the influence of procedural justice on trusting beliefs. Indeed, while some studies support the importance of voice in the trust-building process for countries with high individualism levels [Dinev et al., 2008], many authors conclude that justice perceptions are equally important across individualistic and collectivistic cultures [Morris and Leung, 2000; Lind and Earley, 1992]. As such, our research falls into the latter category.

In contrast to trusting beliefs, procedural justice is effective only in mitigating privacy concerns of users in Germany, which is the most individualistic society in our sample. At the same time, Russian and Moroccan users apparently place no weight on their perceptions of *control* when forming their risk judgments. The high proclivity of Russian and Moroccan culture to fatalism can explain these findings. Indeed, many Russians hold "*what is meant to be, can't be avoided*" attitude, with recent polls demonstrating that "*optimistic fatalism coexisting with passivity and non-interference with life*" still constitutes an important part of the Russian mentality [Pravda.Ru, 2002]. Similarly, Moroccan users tend to associate events in their life with God's will and therefore may disregard control options [Nydell, 2010]. Moreover, certain traits of Russian and Moroccan cultural heritage can make users more pessimistic about the effectiveness of controls in protecting their information. For example, mainly concerned about preserving face and minimizing public criticism [Nydell, 2010], Moroccan users may rightfully think that despite advanced privacy settings, a malicious user, possibly even a "friend," can still find a way to broadcast their information. Indeed, media reports frequently cover cases of users taking revenge on others by publicizing their private details [Savill, 2008]. Hence, control options are viewed as insufficient in reducing privacy-related anxiety in this culture.

The awareness dimension of informational justice is important in determining *trust in the SNS provider* across all countries in our sample. Our results signal that the openness with regard to information-handling practices *does not only* trigger the *calculative-based* process of trust formation, which is important for individualistic cultures, but is also conducive for the evaluation of the SNS provider's *predictability* and *positive intentionality*—a backbone for trust development in collectivistic societies [Doney et al., 1998]. Furthermore, considering the lower tolerance for uncertainty of the Russian culture, transparency of the SNS provider is an important building block of trusting beliefs. Indeed, as cultures with high uncertainty avoidance search for means to reduce their anxiety, the importance of privacy-relevant information increases [Hofstede, 2001]. On the theoretical level, our results contribute to the ongoing discussion about the impact of transparency on trusting beliefs of trustors with individualistic or collectivistic backgrounds [Morris and Leung, 2000].

In light of this discussion, it is interesting that the awareness dimension of informational justice plays *no* role in mitigating *privacy concerns* of users in Germany and Russia, but is effective in Morocco. In Germany this outcome is attributable to the strong reliance of German society on legalistic remedies. Specifically, as German users mentally rely on their laws and regulations when weighting the risks of their participation, they may disregard the implications of privacy policies. In fact, they may feel protected no matter how strong the privacy policy is. In Russia, unimportance of awareness measures can have both cultural and political roots. First, Russians have little tolerance for uncertainty [Hofstede, 2001] and may not internalize privacy-related claims of the SNS provider. Further, current political and social realities of Russia continue to promote a strong centralized and controlling state, which may exacerbate privacy concerns. Hence, despite provider assurances of safety on the platform, Russian users may still feel threatened by powerful entities. Moreover, Russia belongs to the top 20% of the most corrupt countries in the world [Transparency International, 2011]. As a result, Russian users may ignore privacy policies, as they may perceive their chances to enforce them in court as minimal to non-existent.

Finally, our findings contribute to the ongoing discussion about the impact of privacy priming on user privacy concerns [Bonneau and Preibusch, 2009]. We find that only Russian users respond positively to warnings about imminent privacy risks on the SNS, which appear to enhance their trust in the SNS provider. Russian society is characterized by a high level of paternalism, thus this result was expected. However, considering the high privacy-consciousness of German users, it is particularly noteworthy that neither awareness nor warning dimensions of informational justice had an impact on user privacy concerns in Germany.

A global look at our findings reveals that while almost all justice measures are salient in enhancing trust on the part of Russian and Moroccan users, only efforts directed at improving awareness and procedural justice beliefs of SNS users are effective in Germany. This is in line with Pillai et al. [2001], who argue that collectivistic cultures are likely to develop a stronger connection between justice and trusting beliefs due to greater interdependencies characteristic in these societies. Further, justice-based measures are much more salient in tackling trusting beliefs than privacy concerns for all countries in our sample. In fact, only one justice-based measure was found to exert a significant influence on privacy concerns in each country in our focus. These findings have significant managerial implications, as discussed in the following section.

VI. MANAGERIAL IMPLICATIONS

Overall, our findings show that justice-based measures are particularly suited to address the trusting beliefs of SNS audience. Among *four* justice-based means we tested, measures related to the *control* dimension of the *procedural justice* (i.e., the availability of mechanisms to control who can access their posts and information on SNS) and the *awareness* dimension of *informational justice* (i.e., the availability of fair, accessible, and easy-to-understand privacy policy) are particularly suited to address trusting beliefs of globally dispersed audiences, as they have significant impact in all countries we considered. Hence, providers should focus on these measures across the board.

Specifically, effective privacy settings, fair privacy policies, and clear escalation procedures can meet users' needs for active control [Son and Kim, 2008]. Although *privacy settings* represent a powerful way to control one's information, SNS users unfortunately often misjudge the accessibility of their networks, even if they change their privacy options [Strater and Richter, 2007]. To solve this problem, a simple index of one's accessibility, built-in on the profile page and visually similar to "activity meter" on XING.com, could signal the accessibility of users' information. This can help users make an informed choice about the degree of their privacy protection and promote feelings of control [Culnan and Bies, 2003]. In contrast, SNS users often have to toil through myriad privacy options, uncertain about the outcome of their protection.

Beyond functional improvements, changes to the business model are also a viable alternative [Krasnova et al., 2009b]. Indeed, while such prominent SNSs as Facebook or StudiVZ solely depend on advertising, 17 out of 45 online networks in Bonneau and Preibusch [2009]'s dataset offer users an opportunity of paid premium membership, which often implies more privacy and control over one's information. For example, 80% of revenue of XING comes from a meager 8% of its premium members [XING, 2009]. This provides evidence that giving users a choice over their privacy has a significant revenue potential.

To improve awareness, providers are advised against putting privacy notices into the backroom of their websites. On the contrary: more information on how and what information is collected and used should be integrated into the conspicuous website areas. Furthermore, PR campaigns could increase public awareness about the legal and self-imposed boundaries within which providers of SNSs operate. In Russia, privacy-relevant warnings can complement efforts related to awareness, as this measure was found to be significant in enhancing the trust of users in Russia. Moreover, considering that Russian ways of thinking still permeate the mentality of numerous Eastern European countries [Mikheyev, 1987], these measures are likely to be equally effective in those countries as well. If providers are to resort to this strategy, it is best that such warnings always include detailed and clear steps that users could take to protect themselves from specific privacy threats. For example, Facebook [2011] makes use of this strategy with regard to third-party applications: "*Remember that these games, applications and websites are created and maintained by other businesses and developers who are not part of Facebook, so you should always make sure to read their terms of service and privacy policies."* Correctly implemented, these measures will help users feel more positive about the provider and thereby stimulate their participation.

Overall, by granting users *control* over their data and *informing* them about information-handling procedures, SNS providers may communicate their interest in the welfare of its members and hence build an image of a trustworthy company when operating globally. In addition, these measures may help to debunk widespread negative myths portraying the SNS provider as a malicious party continuously abusing user data [Rizk et al., 2009].

While a universal set of means can be adopted to develop trusting attitudes, privacy concerns should be addressed individually in each country. Indeed, our results show that the effectiveness of justice-based measures in this domain is highly sensitive to cultural differences. For example, measures related to distributive justice work well only for Russian users in our sample. By and large, SNS providers have two ways of improving perceptions of distributive justice of their users. On the one hand, the *privacy* side of the benefits-to-privacy risks ratio can be addressed. For example, social networks, such as Imbee, Diaspora, and Kaioo attract members by emphasizing privacy of user data. On the *benefits* side, Hui et al. [2006] argue that service providers should offer users benefits in exchange for using their information, thereby supporting equitable exchange. While SNSs providers go to great lengths (technically and financially) to deliver the unique benefits of connectivity and social information exchange, their value proposition is often taken for granted by users [Pillai et al., 2001]. To reverse this situation, SNS providers should stress the value the users get from the platform and underscore the efforts to provide the desirable benefits to users.

VII. LIMITATIONS AND FUTURE RESEARCH

As with any research effort, ours has its limitations. First, in our discussion of cultural differences, we heavily rely on the scores by Hofstede [2001]. Whereas the scores for Germany were empirically validated, the scores for Russia and Morocco are only estimates based on various national reports, observations, and comparisons to similar countries (i.e.. the Arab World). Whether or not these projected scores are reflective of the reality in such rapidly

changing societies as Russia's or Morocco's is a matter of heated debate [e.g., Naumov and Puffer, 2000; Bradley, 1999]. The Arab world is currently experiencing dramatic changes, which could also indicate profound shifts in this culture. Given these potential biases, in addition to Hofstede's classification, we also relied on our personal experiences in these cultures as well as other descriptions, research findings, and recent popular press highlighting unique cultural characteristics of Germany, Morocco, and Russia.

Second, in our analysis, we view culture as a unifying framework reflecting the mindset of the entire population in the countries we focus on. While this approach has been justified by numerous authors [e.g., Dinev et al., 2008; Pillai et al., 2001], other studies advocate measuring culture on the individual level to better capture the intricacies of the cultural influence [e.g., Li et al., 2009; Sia et al., 2009]. While the aim of this study was to provide the reader with a "*composite picture*" on how societies differ in their response to justice-based measures [Morris and Leung, 2000, p.105], future studies should indeed attempt to fine-tune our findings by integrating individual-level responses to study this phenomenon.

Third, while we speak of culture as a possible moderator of the relationships between justice dimensions and privacy concerns and trust, we advance no specific hypotheses as to change in the strength of those relationships. Cultural influences are intricate in nature, with separate dimensions often countervailing the effects of each other. Therefore, investigation of intercultural dynamics can be exploratory in nature only when more than two countries are involved, as has been suggested by other studies [Pillai et al., 2001]. The purpose of this research was to unveil some of the differences and similarities and examine their implications for research and practice.

Finally, students constitute a large share of our sample. Even though students were at the origins of the SNSs, the current demographics of Facebook are much broader [Su, 2010]. Kruglanski [1975], however, argues that student samples are acceptable when the research question is "universalistic" in nature and involves general psychological constructs. Indeed, Calder, Lynn and Tybout [1982, p. 241] argue that "*as long as a sample is relevant to the universe of the theory, it constitutes a test of that theory.*" Nonetheless, we urge future research to validate our findings with other demographic segments as well as broaden the insights by investigating the moderating role of gender, education, and personality.

VIII. CONCLUDING REMARKS

Our study contributes to the growing bodies of literature on social networking, information privacy, justice, and culture. We expand justice research by examining a context outside of organizational relationships and demonstrating that effects of justice-based measures are often differentiated between cultures, thus also contributing to research that seeks to explain how national culture influences people's beliefs and behaviors. We offer a plethora of theoretical findings and practical insights on the role of *culture* in determining the effectiveness of *justice-based mechanisms* on SNS-related outcomes, such as *trust in the SNS provider* and *privacy concerns*. Above all, providing users with means to control their information and adequate details as to how user data is used are the most important mechanisms independent of culture. We find that, for all countries in our sample, justice-based measures are much more salient in tackling trusting beliefs than are privacy concerns. Privacy concerns remain more culture specific and therefore should be addressed individually in each country. Our findings offer immediate recommendations for SNS providers in enabling effective privacy options as well as providing users with transparent privacy policies.

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Editor's Note: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the paper on the Web can gain direct access to these linked references. Readers are warned, however, that:

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APPENDIX A

Table A: Descriptive Statistics: Means and Standard Deviation							
Construct	**Item**	**Germany**		**Russia**		**Morocco**	
		Mean	SD	Mean	SD	Mean	SD
Privacy concerns	PC1	4.28	1.529	4.53	1.932	5.36	1.804
	PC2	3.96	1.634	4.50	1.935	5.50	1.638
	PC3	4.48	1.698	4.42	2.006	5.55	1.739
	PC4	4.14	1.752	4.41	1.958	5.49	1.812
	PC5	3.64	1.625	3.90	1.945	5.20	1.745
	PC6	4.18	1.693	4.63	1.982	5.40	1.709
Trust in SNS provider	TR1	4.03	1.214	5.20	1.435	4.61	1.607
	TR2	4.12	1.245	5.39	1.434	4.57	1.476
	TR3	3.97	1.196	4.82	1.630	4.36	1.513
	TR4	4.20	1.134	5.09	1.454	4.57	1.390
	TR5	3.64	1.423	4.63	1.600	3.90	1.746
Distributive justice	DJ1	2.93	1.809	3.31	2.002	3.14	1.860
	DJ2	3.01	1.657	3.22	1.827	2.85	1.834
	DJ3	3.24	1.685	3.17	1.864	3.43	1.926
Procedural justice	PJ1	4.55	1.480	4.49	1.799	4.93	1.784
	PJ2	3.41	1.493	3.26	1.826	3.97	2.076
	PJ3	3.23	1.622	3.65	1.832	4.07	1.931
	PJ4	5.04	1.490	4.70	1.661	5.51	1.620
	PJ5	4.48	1.466	4.30	1.865	5.26	1.706
Informational justice: Awareness	IJ_A1	3.37	1.404	4.23	1.847	3.12	1.650
	IJ_A2	3.36	1.589	4.26	2.006	3.09	1.737
	IJ_A3	3.39	1.512	4.10	1.909	2.96	1.723
Informational justice: Warning	IJ_W1	3.25	1.532	4.04	1.827	3.04	1.691
	IJ_W2	3.20	1.403	4.08	1.926	2.94	1.714
	IJ_W3	3.11	1.392	4.43	1.947	2.83	1.673

APPENDIX B

Table B: Outer Loadings				
Construct	**Item**	**Outer Loadings**		
		Germany	**Russia**	**Morocco**
Privacy concerns	PC1	0.848	0.891	0.715
	PC2	0.868	0.841	0.813
	PC3	0.850	0.789	0.678
	PC4	0.728	0.687	0.779
	PC5	0.712	0.698	0.685
	PC6	0.738	0.855	0.589
Trust in SNS provider	TR1	0.857	0.829	0.789
	TR2	0.790	0.824	0.790
	TR3	0.895	0.837	0.824
	TR4	0.863	0.809	0.660
	TR5	0.850	0.815	0.826
Distributive justice	DJ1	0.913	0.853	0.918
	DJ2	0.916	0.867	0.882
	DJ3	0.893	0.925	0.830
Procedural justice	PJ1	0.815	0.685	0.802
	PJ2	0.606	0.792	0.743
	PJ3	0.602	0.827	0.756
	PJ4	0.807	0.716	0.738
	PJ5	0.821	0.774	0.760
Informational justice: Awareness	IJ_A1	0.816	0.908	0.859
	IJ_A2	0.903	0.919	0.886
	IJ_A3	0.850	0.908	0.922
Informational justice: Warning	IJ_W1	0.915	0.902	0.881
	IJ_W2	0.938	0.900	0.884
	IJ_W3	0.921	0.859	0.917

APPENDIX C:

Table C.1: Square Root of AVE (Diagonal Elements) and Correlation between Latent Variables (Off-diagonal Elements) for German Sample

Construct	TR	PC	DJ	PJ	IJ_A	IJ_W
Trust in SNS provider (TR)	0.852					
Privacy concerns (PC)	-0.231	0.793				
Distributive justice (DJ)	0.215	-0.141	0.907			
Procedural justice (PJ)	0.431	-0.332	0.269	0.738		
Informational justice: Awareness (IJ_A)	0.484	-0.272	0.136	0.353	0.857	
Informational justice: Warning (IJ_W)	0.400	-0.195	0.093	0.315	0.700	0.925

Table C.2: Square Root of AVE (Diagonal Elements) and Correlation between Latent Variables (Off-diagonal Elements) for Russian Sample

Construct	TR	PC	DJ	PJ	IJ_A	IJ_W
Trust in SNS provider (TR)	0.823					
Privacy concerns (PC)	0.017	0.797				
Distributive justice (DJ)	0.239	-0.149	0.882			
Procedural justice (PJ)	0.335	-0.048	0.167	0.761		
Informational justice: Awareness (IJ_A)	0.509	-0.055	0.204	0.333	0.912	
Informational justice: Warning (IJ_W)	0.402	0.050	0.242	0.197	0.543	0.887

Table C.3: Square Root of AVE (Diagonal Elements) and Correlation between Latent Variables (Off-diagonal Elements) for Moroccan Sample

Construct	TR	PC	DJ	PJ	IJ_A	IJ_W
Trust in SNS provider (TR)	0.780					
Privacy concerns (PC)	-0.110	0.713				
Distributive justice (DJ)	0.233	-0.107	0.877			
Procedural justice (PJ)	0.309	-0.073	0.193	0.760		
Informational justice: Awareness (IJ_A)	0.351	-0.221	0.223	0.287	0.889	
Informational justice: Warning (IJ_W)	0.296	-0.165	0.260	0.243	0.781	0.894

APPENDIX D

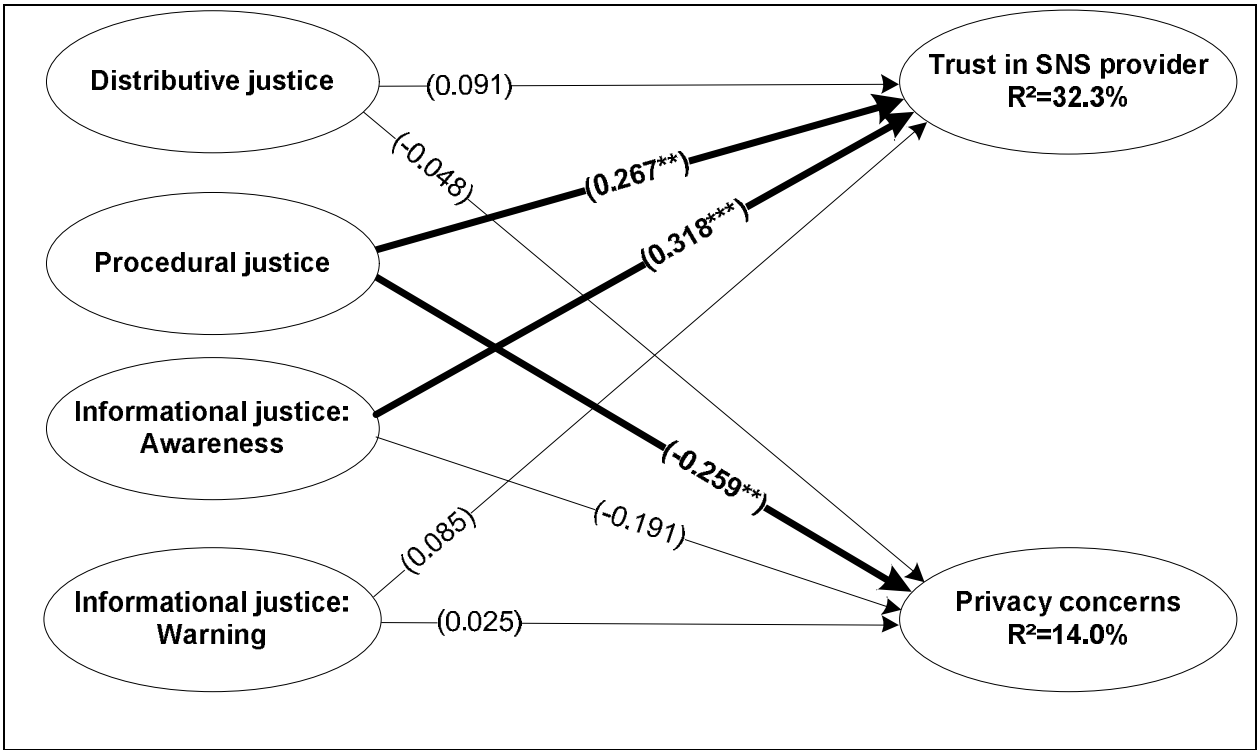

Figure D.1. Results of the Structural Model for the German Sample of Facebook Users

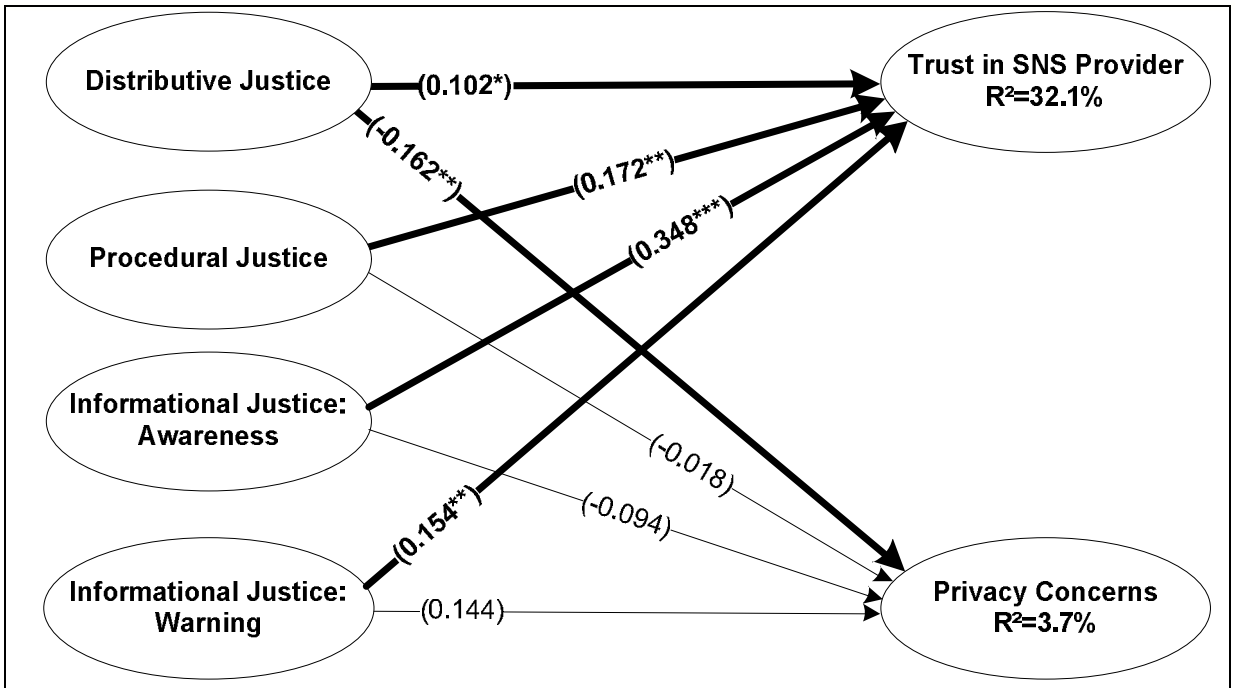

Figure D.2. Results of the Structural Model for the Russian Sample of VKontakte Users

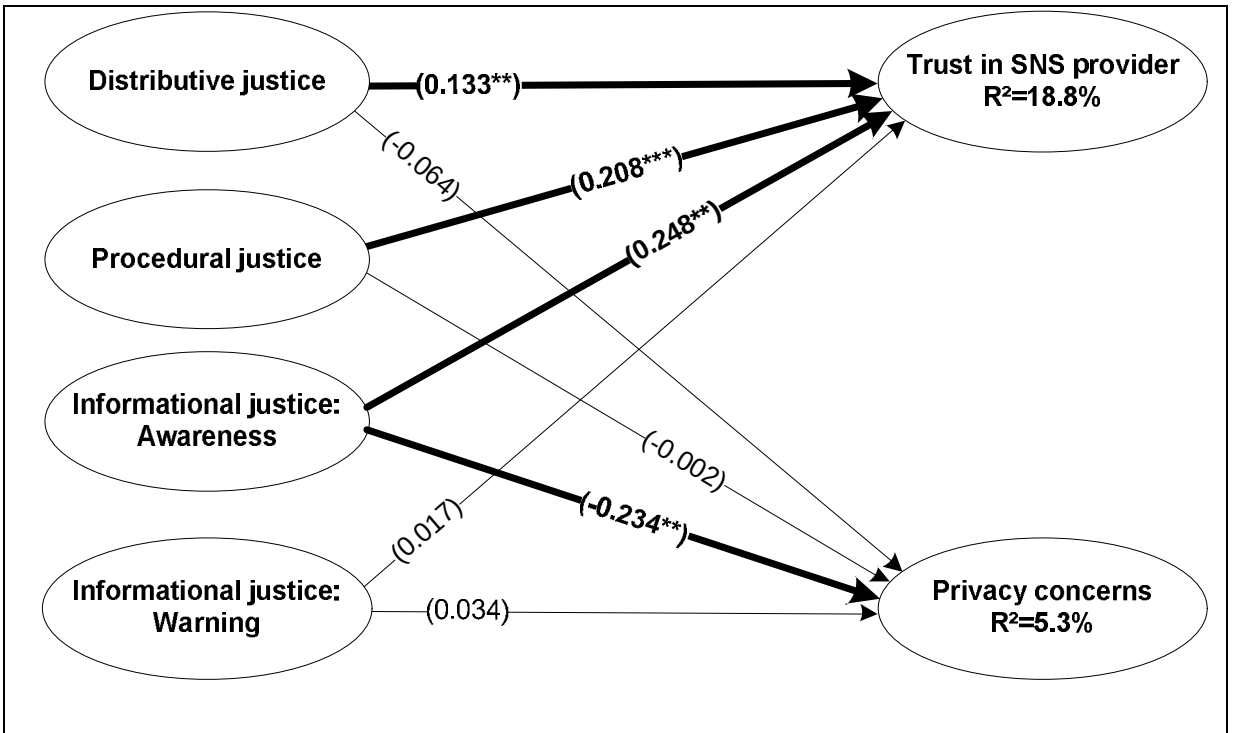

Figure D.3. Results of the Structural Model for the Moroccan Sample of Facebook user.

: Significance at 10%, **: Significance at 5%, *: Significance at 1% or lower;*

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